Amendments to the Abstract

A method of JPEG compression of an image frame divided up into a plurality of non-overlapping, tiled 8 x 8 pixel blocks ~~B_{ij}~~ X_i ~~where i, j are integers covering all of the blocks in the image frame~~. A global quantization matrix Q is determined by either selecting a standard JPEG quantization table or selecting a quantization table such that the magnitude of each quantization matrix coefficient, ~~Q_{ij}~~ Q[m,n] is inversely proportional to ~~a~~ the aggregate visual importance~~, I_{ij}, to~~ in the image of ~~a~~ the corresponding DCT basis vector. Next a linear scaling factor ~~S_{ij}~~ S_i is selected for each block, bounded by user selected values S_{min} and S_{max} ~~which defines bounds over which the image is to be variably quantized~~. Transform coefficients, ~~D_{ijmn}~~ Y_i, obtained from a digital cosine transform of ~~B_{ij}~~ X_i, are quantized with global table S_{min} Q while emulated the effects of quantization with local table S_i Q and the quantized coefficients ~~T_{ijmn}~~ T_i[m,n] and ~~$Q*S_{min}$~~ global quantization table S_{min} Q are entropy encoded , where S_{min} is a user selected minimum scaling factor, to create a JPEG Part 1 image file. The algorithm is unique in that it allows for the effect of variable-quantization to be achieved while still producing a fully compliant JPEG Part 1 file.